

said at least two chip electrodes; and

an external bump pad electrically connected through said common wiring layer to said at least two chip electrodes.

22. (Amended) A semiconductor device comprising:

a wiring substrate having a predetermined pattern of wiring formed on one surface;

a semiconductor chip disposed on the other surface of said wiring substrate and having at least one chip electrode set comprising at least two chip electrodes in a common wiring layer, wherein said chip electrodes are arranged parallel to an edge of said semiconductor chip and said wiring is bent at at least one position;

said wiring substrate having a number of through-holes;

a number of bumps formed respectively in said through-holes in conforming relationship with said at least two chip electrodes and electrically connecting said wiring with said at least two chip electrodes; and

an external bump pad electrically connected through said common wiring layer to said at least two chip electrodes.

23. (Amended) A semiconductor device comprising:

a wiring substrate having a predetermined pattern of wiring formed on one surface;

a semiconductor chip disposed on the other surface of said wiring substrate and having at least one chip electrode set comprising at least two chip electrodes in a common wiring layer, wherein said chip electrodes are arranged parallel to an edge of said semiconductor chip and said wiring has an end width larger than an inter-electrode distance between said chip electrodes;

said wiring substrate having a number of through-holes;

D1
cont

HAYES SOLOWAY P.C.
175 Canal Street
Manchester, NH 03101

TEL: 603-668-1400
FAX: 603-668-8567

1
Cont

a number of bumps formed respectively in said through-holes in conforming relationship with said at least two chip electrodes and electrically connecting said wiring with said at least two chip electrodes; and

an external bump pad electrically connected through said common wiring layer to said at least two chip electrodes.

Sub
E2

27. (Amended) A semiconductor device comprising:

a wiring substrate having a predetermined pattern of wiring formed on one surface;

a semiconductor chip disposed on said one surface of said wiring substrate and having at least one chip electrode set comprising at least two chip electrodes in a common wiring layer, wherein said chip electrodes are arranged from an edge of said semiconductor chip toward its inner side;

a number of bumps disposed on said wiring respectively in conforming relationship with said at least two chip electrodes and electrically connecting said wiring with said at least two chip electrodes; and

an external pump pad electrically connected through said common wiring layer to said at least two chip electrodes.

28. (Amended) A semiconductor device comprising:

a wiring substrate having a predetermined pattern of working formed on one surface;

a semiconductor chip disposed on said one surface of said wiring substrate and having at least one chip electrode set comprising at least two chip electrodes in a common wiring layer, wherein said chip electrodes are arranged parallel to an edge of said semiconductor chip and said wiring is bent at at least one position;

a number of bumps disposed on said wiring respectively in conforming relationship

HAYES SOLOWAY P.C.
175 Canal Street
Manchester, NH 03101

TEL: 603-668-1400
FAX: 603-668-8567

with said at least two chip electrodes and electrically connecting said wiring with said at least two chip electrodes; and

an external bump pad electrically connected through said common wiring layer to said at least two chip electrodes.

29. (Amended) A semiconductor device comprising:

a wiring substrate having a predetermined pattern of wiring formed on one surface;

a semiconductor chip disposed on said one surface of said wiring substrate and having at least one chip electrode set comprising at least two chip electrodes in a common wiring layer, wherein said chip electrodes are arranged parallel to an edge of said semiconductor chip and said wiring has an end width larger than an inter-electrode distance between said chip electrodes;

a number of bumps disposed on said wiring respectively in conforming relationship with said at least two chip electrodes and electrically connecting said wiring with said at least two chip electrodes; and

an external bump pad electrically connected through said common wiring layer to said at least two chip electrodes.

33. (Amended) A semiconductor device comprising:

a TAB (tape automated bonding) tape having a predetermined pattern of wiring formed on one surface;

a semiconductor chip disposed on the other surface of said TAB tape and having at least one chip electrode set comprising at least two chip electrodes in a common wiring layer, wherein said chip electrodes are arranged from an edge of said semiconductor chip toward its inner side;

HAYES SOLOWAY P.C.
175 Canal Street
Manchester, NH 03101

TEL: 603-668-1400
FAX: 603-668-8567

said TAB tape having a number of through-holes;

a number of bumps formed respectively in said through-holes in conforming relationship with said at least two chip electrodes and electrically connecting said wiring with said at least two chip electrodes; and

an external bump pad electrically connected through said common wiring layer to said at least two chip electrodes.

34. (Amended) A semiconductor device comprising:

a TAB (tape automated bonding) tape having a predetermined pattern of wiring formed on one surface;

a semiconductor chip disposed on the other surface of said TAB tape and having at least one chip electrode set comprising at least two chip electrodes in a common wiring layer, wherein said chip electrodes are arranged parallel to an edge of said semiconductor chip and said wiring is bent at at least one position;

said TAB tape having a number of through-holes;

a number of bumps formed respectively in said through-holes in conforming relationship with said at least two chip electrodes and electrically connecting said wiring with said at least two chip electrodes; and

an external bump pad electrically connected through said common wiring layer to said at least two chip electrodes.

35. (Amended) A semiconductor device comprising:

a TAB (tape automated bonding) tape having a predetermined pattern of wiring formed on one surface;

a semiconductor chip disposed on the other surface of said TAB tape and having at

HAYES SOLOWAY P.C.
175 Canal Street
Manchester, NH 03101

TEL: 603-668-1400
FAX: 603-668-8567

least one chip electrode set comprising at least two chip electrodes in a common wiring layer, wherein said chip electrodes are arranged parallel to an edge of said semiconductor chip and said wiring has an end width larger than an inter-electrode distance between said chip electrodes;

said TAB tape having a number of through-holes;

a number of bumps formed respectively in said through-holes in conforming relationship with said at least two chip electrodes and electrically connecting said wiring with said at least two chip electrodes; and

an external bump pad electrically connected through said common wiring layer to said at least two chip electrodes.

39. (Amended) A semiconductor device comprising:

a TAB tape having a predetermined pattern of wiring formed on one surface;

a semiconductor chip disposed on said one surface of said TAB tape and having at least one chip electrode set comprising at least two chip electrodes in a common wiring layer, wherein said chip electrodes are arranged from an edge of said semiconductor chip toward its inner side;

a number of bumps disposed on said wiring respectively in conforming relationship with said at least two chip electrodes and electrically connecting said wiring with said at least two chip electrodes; and

an external bump pad electrically connected through said common wiring layer to said at least two chip electrodes.

40. (Amended) A semiconductor device comprising:

a TAB tape having a predetermined pattern of wiring formed on one surface;

HAYES SOLOWAY P.C.
175 Canal Street
Manchester, NH 03101

TEL: 603-668-1400
FAX: 603-668-8567

a semiconductor chip disposed on said one surface of said TAB tape and having at least one chip electrode set comprising at least two chip electrodes in a common wiring layer, wherein said chip electrodes are arranged parallel to an edge of said semiconductor chip and said wiring is bent at at least one position;

a number of bumps disposed on said wiring respectively in conforming relationship with said at least two chip electrodes and electrically connecting said wiring with said at least two chip electrodes; and

an external bump pad electrically connected through said common wiring layer to said at least two chip electrodes.

41. (Amended) A semiconductor device comprising:

a TAB tape having a predetermined pattern of wiring formed on one surface;

a semiconductor chip disposed on said one surface of said TAB tape and having at least one chip electrode set comprising at least two chip electrodes in a common wiring layer, wherein said chip electrodes are arranged parallel to an edge of said semiconductor chip and said wiring has an end width larger than an inter-electrode distance between said chip electrodes;

a number of bumps disposed on said wiring respectively in conforming relationship with said at least two chip electrodes and electrically connecting said wiring with said at least two chip electrodes; and

an external bump pad electrically connected through said common wiring layer to said at least two chip electrodes.

HAYES SOLOWAY P.C.
175 Canal Street
Manchester, NH 03101

TEL: 603-668-1400

FAX: 603-668-8567

Please add new claims 45-56 to read as follows:

45. A semiconductor device according to claim 21, and comprising at least two chip

electrode sets each comprising at least two chip electrodes in a common wiring layer.

46. A semiconductor device according to claim 22, and comprising at least two chip electrode sets each comprising at least two chip electrodes in a common wiring layer.

47. A semiconductor device according to claim 23, and comprising at least two chip electrode sets each comprising at least two chip electrodes in a common wiring layer.

48. A semiconductor device according to claim 27, and comprising at least two chip electrode sets each comprising at least two chip electrodes in a common wiring layer.

49. A semiconductor device according to claim 28, and comprising at least two chip electrode sets each comprising at least two chip electrodes in a common wiring layer.

50. A semiconductor device according to claim 29, and comprising at least two chip electrode sets each comprising at least two chip electrodes in a common wiring layer.

51. A semiconductor device according to claim 33, and comprising at least two chip electrode sets each comprising at least two chip electrodes in a common wiring layer.

52. A semiconductor device according to claim 34, and comprising at least two chip electrode sets each comprising at least two chip electrodes in a common wiring layer.

53. A semiconductor device according to claim 35, and comprising at least two chip electrode sets each comprising at least two chip electrodes in a common wiring layer.

54. A semiconductor device according to claim 39, and comprising at least two chip electrode sets each comprising at least two chip electrodes in a common wiring layer.

55. A semiconductor device according to claim 40, and comprising at least two chip electrode sets each comprising at least two chip electrodes in a common wiring layer.

56. A semiconductor device according to claim 41, and comprising at least two chip electrode sets each comprising at least two chip electrodes in a common wiring layer.--

5
D cont

HAYES SOLOWAY P.C.
175 Canal Street
Manchester, NH 03101

TEL: 603-668-1400
FAX: 603-668-8567